

ABSTRACT

A nozzle for mixing and delivering two or more components and method of use thereof. One variation provides a nozzle that injects a first component, such as fuel, into a flow plume for a second component, such as nitrous oxide, for use with
5 combustion engines. The nozzle receives two or more separate flows of components (e.g., gases and/or liquids), one of which is pressurized so as to be outputtable from the nozzle as a plume. The plume is directed so as to encompass an output extension for the other component near the plume edge, thereby enhancing mixture of the components. In addition, the plume produces a low pressure draw of the second
10 component from the output extension, the low pressure draw varying with plume velocity, in turn varying with delivery pressure of the first component. The plume flow of the second component also atomizes the first component, further enhancing mixing.